

IV. SUMMARY OF APPLICABLE FEDERAL STATUTES AND REGULATIONS

This section discusses the federal regulations that may apply to this sector. The purpose of this section is to highlight and briefly describe the applicable federal requirements, and to provide citations for more detailed information. The three following sections are included:

- Section IV.A contains a general overview of major statutes
- Section IV.B contains a list of regulations specific to this industry
- Section IV.C contains a list of pending and proposed regulatory requirements.

The descriptions within Section IV are intended solely for general information. Depending upon the nature or scope of the activities at a particular facility, these summaries may or may not necessarily describe all applicable environmental requirements. Moreover, they do not constitute formal interpretations or clarifications of the statutes and regulations. For further information, readers should consult the Code of Federal Regulations and other state or local regulatory agencies. EPA Hotline contacts are also provided for each major statute. For specific agricultural information, contact The National Agricultural Compliance Assistance Center at (888) 663-2155 or visit the website at <http://www.epa.gov/agriculture>.

IV.A. General Description of Major Statutes

Clean Water Act

The primary objective of the Federal Water Pollution Control Act Amendments of 1972, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. Pollutants regulated under the CWA are classified as either “toxic” pollutants; “conventional” pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; or “non-conventional” pollutants, including any pollutant not identified as either conventional or priority.

The CWA regulates both direct and “indirect” dischargers (those who discharge to publicly owned treatment works). The National Pollutant Discharge Elimination System (NPDES) permitting program (CWA §402) controls direct discharges into navigable waters. Direct discharges or “point source” discharges are from sources such as pipes and sewers. NPDES permits, issued by either EPA or an authorized state (EPA has authorized 43 states and 1 territory to administer the NPDES program), contain industry-specific, technology-based water quality limits and

establish pollutant monitoring and reporting requirements. A facility that proposes to discharge into the nation's waters must obtain a permit prior to initiating a discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility's effluent. The permit will then set forth the conditions and effluent limitations under which a facility may make a discharge.

Water quality-based discharge limits are based on federal or state water quality criteria or standards, that were designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the technology-based standards, generally do not take into account technological feasibility or costs. Water quality criteria and standards vary from state to state, and site to site, depending on the use classification of the receiving body of water. Most states follow EPA guidelines which propose aquatic life and human health criteria for many of the 126 priority pollutants.

Storm Water Discharges

In 1987 the CWA was amended to require EPA to establish a program to address storm water discharges. In response, EPA promulgated NPDES permitting regulations for storm water discharges. These regulations require that facilities with the following types of storm water discharges, among others, apply for an NPDES permit: (1) a discharge associated with industrial activity; (2) a discharge from a large or medium municipal storm sewer system; or (3) a discharge which EPA or the state determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

The term "storm water discharge associated with industrial activity" means a storm water discharge from one of 11 categories of industrial activity defined at 40 CFR §122.26. Six of the categories are defined by SIC codes while the other five are identified through narrative descriptions of the regulated industrial activity. If the primary SIC code of the facility is one of those identified in the regulations, the facility is subject to the storm water permit application requirements. If any activity at a facility is covered by one of the five narrative categories, storm water discharges from those areas where the activities occur are subject to storm water discharge permit application requirements.

Those facilities/activities that are subject to storm water discharge permit application requirements are identified below. To determine whether a particular facility falls within one of these categories, the regulation should be consulted.

Category i: Facilities subject to storm water effluent guidelines, new source performance standards, or toxic pollutant effluent standards.

Category ii: Facilities classified as SIC 24-lumber and wood products (except wood kitchen cabinets); SIC 26-paper and allied products (except paperboard containers and products); SIC 28-chemicals and allied products (except drugs and paints); SIC 29-petroleum refining; SIC 311-leather tanning and finishing; SIC 32 (except 323)-stone, clay, glass, and concrete; SIC 33-primary metals; SIC 3441-fabricated structural metal; and SIC 373-ship and boat building and repairing.

Category iii: Facilities classified as SIC 10-metal mining; SIC 12-coal mining; SIC 13-oil and gas extraction; and SIC 14-nonmetallic mineral mining.

Category iv: Hazardous waste treatment, storage, or disposal facilities.

Category v: Landfills, land application sites, and open dumps that receive or have received industrial wastes.

Category vi: Facilities classified as SIC 5015-used motor vehicle parts; and SIC 5093-automotive scrap and waste material recycling facilities.

Category vii: Steam electric power generating facilities.

Category viii: Facilities classified as SIC 40-railroad transportation; SIC 41-local passenger transportation; SIC 42-trucking and warehousing (except public warehousing and storage); SIC 43-U.S. Postal Service; SIC 44-water transportation; SIC 45-transportation by air; and SIC 5171-petroleum bulk storage stations and terminals.

Category ix: Sewage treatment works.

Category x: Construction activities except operations that result in the disturbance of less than five acres of total land area.

Category xi: Facilities classified as SIC 20-food and kindred products; SIC 21-tobacco products; SIC 22-textile mill products; SIC 23-apparel related products; SIC 2434-wood kitchen cabinets manufacturing; SIC 25-furniture and fixtures; SIC 265-paperboard containers and boxes; SIC 267-converted paper and paperboard products; SIC 27-printing, publishing, and allied industries; SIC 283-drugs; SIC 285-paints, varnishes, lacquer, enamels, and allied products; SIC 30-rubber and plastics; SIC 31-leather and leather products (except leather and tanning and finishing); SIC 323-glass products; SIC 34-fabricated metal products (except fabricated structural metal); SIC 35-industrial and commercial machinery

and computer equipment; SIC 36-electronic and other electrical equipment and components; SIC 37-transportation equipment (except ship and boat building and repairing); SIC 38-measuring, analyzing, and controlling instruments; SIC 39-miscellaneous manufacturing industries; and SIC 4221-4225-public warehousing and storage.

Pretreatment Program

Another type of discharge that is regulated by the CWA is one that goes to a publicly owned treatment works (POTW). The national pretreatment program (CWA § 307(b)) controls the indirect discharge of pollutants to POTWs by “industrial users.” Facilities regulated under §307(b) must meet certain pretreatment standards. The goal of the pretreatment program is to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these plants.

EPA has developed technology-based standards for industrial users of POTWs. Different standards apply to existing and new sources within each category. “Categorical” pretreatment standards applicable to an industry on a nationwide basis are developed by EPA. In addition, another kind of pretreatment standard, “local limits,” are developed by the POTW in order to assist the POTW in achieving the effluent limitations in its NPDES permit.

Regardless of whether a state is authorized to implement either the NPDES or the pretreatment program, if it develops its own program, it may enforce requirements more stringent than federal standards.

Wetlands

Wetlands, commonly called swamps, marshes, fens, bogs, vernal pools, playas, and prairie potholes, are a subset of “waters of the United States,” as defined in Section 404 of the CWA. The placement of dredge and fill material into wetlands and other water bodies (i.e., waters of the United States) is regulated by the U.S. Army Corps of Engineers (Corps) under 33 CFR Part 328. The Corps regulates wetlands by administering the CWA Section 404 permit program for activities that impact wetlands. EPA’s authority under Section 404 includes veto power of Corps permits, authority to interpret statutory exemptions and jurisdiction, enforcement actions, and delegating the Section 404 program to the states.

EPA’s Office of Water, at (202) 260-5700, will direct callers with questions about the CWA to the appropriate EPA office. EPA also maintains a bibliographic database of Office of Water publications which can be accessed

through the Ground Water and Drinking Water resource center, at (202) 260-7786.

Oil Pollution Prevention Regulation

Section 311(b) of the CWA prohibits the discharge of oil, in such quantities as may be harmful, into the navigable waters of the United States and adjoining shorelines. The EPA Discharge of Oil regulation, 40 CFR Part 110, provides information regarding these discharges. The Oil Pollution Prevention regulation, 40 CFR Part 112, under the authority of Section 311(j) of the CWA, requires regulated facilities to prepare and implement Spill Prevention Control and Countermeasure (SPCC) plans. The intent of a SPCC plan is to prevent the discharge of oil from onshore and offshore non-transportation-related facilities. In 1990 Congress passed the Oil Pollution Act which amended Section 311(j) of the CWA to require facilities that because of their location could reasonably be expected to cause “substantial harm” to the environment by a discharge of oil to develop and implement Facility Response Plans (FRP). The intent of a FRP is to provide for planned responses to discharges of oil.

A facility is SPCC-regulated if the facility, due to its location, could reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines, and the facility meets one of the following criteria regarding oil storage: (1) the capacity of any aboveground storage tank exceeds 660 gallons, or (2) the total aboveground storage capacity exceeds 1,320 gallons, or (3) the underground storage capacity exceeds 42,000 gallons. 40 CFR § 112.7 contains the format and content requirements for a SPCC plan. In New Jersey, SPCC plans can be combined with DPCC plans, required by the state, provided there is an appropriate cross-reference index to the requirements of both regulations at the front of the plan.

According to the FRP regulation, a facility can cause “substantial harm” if it meets one of the following criteria: (1) the facility has a total oil storage capacity greater than or equal to 42,000 gallons and transfers oil over water to or from vessels; or (2) the facility has a total oil storage capacity greater than or equal to 1 million gallons and meets any one of the following conditions: (i) does not have adequate secondary containment, (ii) a discharge could cause “injury” to fish and wildlife and sensitive environments, (iii) shut down a public drinking water intake, or (iv) has had a reportable oil spill greater than or equal to 10,000 gallons in the past 5 years. Appendix F of 40 CFR Part 112 contains the format and content requirements for a FRP. FRPs that meet EPA’s requirements can be combined with U.S. Coast Guard FRPs or other contingency plans, provided there is an appropriate cross-reference index to the requirements of all applicable regulations at the front of the plan.

For additional information regarding SPCC plans, contact EPA's RCRA, Superfund, and EPCRA Hotline, at (800) 424-9346. Additional documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline. The hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) encourages states/tribes to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. It includes areas bordering the Atlantic, Pacific, and Arctic Oceans, Gulf of Mexico, Long Island Sound, and Great Lakes. A unique feature of this law is that participation by states/tribes is voluntary.

In the Coastal Zone Management Act Reauthorization Amendments (CZARA) of 1990, Congress identified nonpoint source pollution as a major factor in the continuing degradation of coastal waters. Congress also recognized that effective solutions to nonpoint source pollution could be implemented at the state/tribe and local levels. In CZARA, Congress added Section 6217 (16 U.S.C. § 1455b), which calls upon states/tribes with federally-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs. The Section 6217 program is administered at the federal level jointly by EPA and the National Oceanic and Atmospheric Agency (NOAA).

Section 6217(g) called for EPA, in consultation with other agencies, to develop guidance on "management measures" for sources of nonpoint source pollution in coastal waters. Under Section 6217, EPA is responsible for developing technical guidance to assist states/tribes in designing coastal nonpoint pollution control programs. On January 19, 1993, EPA issued its *Guidance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters*, which addresses five major source categories of nonpoint pollution: (1) urban runoff, (2) agriculture runoff, (3) forestry runoff, (4) marinas and recreational boating, and (5) hydromodification.

Additional information on coastal zone management may be obtained from EPA's Office of Wetlands, Oceans, and Watersheds at <http://www.epa.gov/owow> or from the Watershed Information Network at <http://www.epa.gov/win>. The NOAA website at <http://www.nos.noaa.gov/ocrm/czm/> also contains additional information on coastal zone management.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants in drinking water. The law authorizes EPA to develop national drinking water standards and to create a joint federal-state system to ensure compliance with these standards. The SDWA also directs EPA to protect underground sources of drinking water through the control of underground injection of fluid wastes.

EPA has developed primary and secondary drinking water standards under its SDWA authority. EPA and authorized states enforce the primary drinking water standards, which are, contaminant-specific concentration limits that apply to certain public drinking water supplies. Primary drinking water standards consist of maximum contaminant level goals (MCLGs), which are non-enforceable health-based goals, and maximum contaminant levels (MCLs), which are enforceable limits set generally as close to MCLGs as possible, considering cost and feasibility of attainment.

The SDWA Underground Injection Control (UIC) program (40 CFR Parts 144-148) is a permit program which protects underground sources of drinking water by regulating five classes of injection wells. UIC permits include design, operating, inspection, and monitoring requirements. Wells used to inject hazardous wastes must also comply with RCRA corrective action standards in order to be granted a RCRA permit, and must meet applicable RCRA land disposal restrictions standards. The UIC permit program is often state/tribe-enforced, since EPA has authorized many states/tribes to administer the program. Currently, EPA shares the UIC permit program responsibility in seven states and completely runs the program in 10 states and on all tribal lands.

The SDWA also provides for a federally-implemented Sole Source Aquifer program, which prohibits federal funds from being expended on projects that may contaminate the sole or principal source of drinking water for a given area, and for a state-implemented Wellhead Protection program, designed to protect drinking water wells and drinking water recharge areas.

The SDWA Amendments of 1996 require states to develop and implement source water assessment programs (SWAPs) to analyze existing and potential threats to the quality of the public drinking water throughout the state. Every state is required to submit a program to EPA and to complete all assessments within 3 ½ years of EPA approval of the program. SWAPs include: (1) delineating the source water protection area, (2) conducting a contaminant source inventory, (3) determining the susceptibility of the public water supply to

contamination from the inventories sources, and (4) releasing the results of the assessments to the public.

EPA's Safe Drinking Water Hotline, at (800) 426-4791, answers questions and distributes guidance pertaining to SDWA standards. The Hotline operates from 9:00 a.m. through 5:30 p.m., EST, excluding federal holidays. Visit the website at www.epa.gov/ogwdw for additional material.

Resource Conservation and Recovery Act

The Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, addresses solid and hazardous waste management activities. The Act is commonly referred to as RCRA. The Hazardous and Solid Waste Amendments (HSWA) of 1984 strengthened RCRA's waste management provisions and added Subtitle I, which governs underground storage tanks (USTs).

Regulations promulgated pursuant to Subtitle C of RCRA (40 CFR Parts 260-299) establish a "cradle-to-grave" system governing hazardous waste from the point of generation to disposal. RCRA hazardous wastes include the specific materials listed in the regulations (discarded commercial chemical products, designated with the code "P" or "U"; hazardous wastes from specific industries/sources, designated with the code "K"; or hazardous wastes from non-specific sources, designated with the code "F") or materials which exhibit a hazardous waste characteristic (ignitability, corrosivity, reactivity, or toxicity and designated with the code "D").

Entities that generate hazardous waste are subject to waste accumulation, manifesting, and recordkeeping standards. A hazardous waste facility may accumulate hazardous waste for up to 90 days (or 180 days depending on the amount generated per month) without a permit or interim status. Generators may also treat hazardous waste in accumulation tanks or containers (in accordance with the requirements of 40 CFR 262.34) without a permit or interim status.

Facilities that treat, store, or dispose of hazardous waste are generally required to obtain a RCRA permit. Subtitle C permits for treatment, storage, or disposal facilities contain general facility standards such as contingency plans, emergency procedures, recordkeeping and reporting requirements, financial assurance mechanisms, and unit-specific standards. RCRA also contains provisions (40 CFR Subparts I and S) for conducting corrective actions which govern the cleanup of releases of hazardous waste or constituents from solid waste management units at RCRA treatment, storage, or disposal facilities.

Although RCRA is a federal statute, many states implement the RCRA program. Currently, EPA has delegated its authority to implement various provisions of RCRA to 47 of the 50 states and two U.S. territories. Delegation has not been given to Alaska, Hawaii, or Iowa.

Most RCRA requirements are not industry specific but apply to any company that generates, transports, treats, stores, or disposes of hazardous waste. Here are some important RCRA regulatory requirements:

- **Criteria for Classification of Solid Waste Disposal Facilities and Practices** (40 CFR Part 257) establishes the criteria for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment. The criteria were adopted to ensure non-municipal, non-hazardous waste disposal units that receive conditionally exempt small quantity generator waste do not present risks to human health and environment.
- **Criteria for Municipal Solid Waste Landfills** (40 CFR Part 258) establishes minimum national criteria for all municipal solid waste landfill units, including those that are used to dispose of sewage sludge.
- **Identification of Solid and Hazardous Wastes** (40 CFR Part 261) establishes the standard to determine whether the material in question is considered a solid waste and, if so, whether it is a hazardous waste or is exempted from regulation.
- **Standards for Generators of Hazardous Waste** (40 CFR Part 262) establishes the responsibilities of hazardous waste generators including obtaining an EPA ID number, preparing a manifest, ensuring proper packaging and labeling, meeting standards for waste accumulation units, and recordkeeping and reporting requirements. Generators can accumulate hazardous waste on-site for up to 90 days (or 180 days depending on the amount of waste generated) without obtaining a permit.
- **Land Disposal Restrictions** (LDRs) (40 CFR Part 268) are regulations prohibiting the disposal of hazardous waste on land without prior treatment. Under the LDRs program, materials must meet treatment standards prior to placement in a RCRA land disposal unit (landfill, land treatment unit, waste pile, or surface impoundment). Generators of waste subject to the LDRs must provide notification of such to the designated TSD facility to ensure proper treatment prior to disposal.

- **Used Oil Management Standards** (40 CFR Part 279) impose management requirements affecting the storage, transportation, burning, processing, and re-refining of the used oil. For parties that merely generate used oil, regulations establish storage standards. For a party considered a used oil processor, re-refiner, burner, or marketer (one who generates and sells off-specification used oil directly to a used oil burner), additional tracking and paperwork requirements must be satisfied.
- RCRA contains unit-specific standards for all units used to store, treat, or dispose of hazardous waste, including **Tanks and Containers**. Tanks and containers used to store hazardous waste with a high volatile organic concentration must meet emission standards under RCRA. Regulations (40 CFR Part 264-265, Subpart CC) require generators to test the waste to determine the concentration of the waste, to satisfy tank and container emissions standards, and to inspect and monitor regulated units. These regulations apply to all facilities who store such waste, including large quantity generators accumulating waste prior to shipment offsite.
- **Underground Storage Tanks** (USTs) containing petroleum and hazardous substances are regulated under Subtitle I of RCRA. Subtitle I regulations (40 CFR Part 280) contain tank design and release detection requirements, as well as financial responsibility and corrective action standards for USTs. The UST program also includes upgrade requirements for existing tanks that were to be met by December 22, 1998.
- **Boilers and Industrial Furnaces** (BIFs) that use or burn fuel containing hazardous waste must comply with design and operating standards. BIF regulations (40 CFR Part 266, Subpart H) address unit design, provide performance standards, require emissions monitoring, and, in some cases, restrict the type of waste that may be burned.

EPA's RCRA, Superfund, and EPCRA Hotline, at (800) 424-9346, responds to questions and distributes guidance regarding all RCRA regulations. Additional documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline. The RCRA Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Comprehensive Environmental Response, Compensation, And Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a 1980 law commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. CERCLA also enables EPA to force parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response or remediation costs incurred by EPA. The Superfund Amendments and Reauthorization Act (SARA) of 1986 revised various sections of CERCLA, extended the taxing authority for the Superfund, and created a free-standing law, SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA).

The CERCLA hazardous substance release reporting regulations (40 CFR Part 302) direct the person in charge of a facility to report to the National Response Center (NRC) any environmental release of a hazardous substance which equals or exceeds a reportable quantity. Reportable quantities are listed in 40 CFR §302.4. A release report may trigger a response by EPA, or by one or more federal or state emergency response authorities.

EPA implements hazardous substance responses according to procedures outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The NCP includes provisions for cleanups. The National Priorities List (NPL) currently includes approximately 1,300 sites. Both EPA and states can act at other sites; however, EPA provides responsible parties the opportunity to conduct cleanups and encourages community involvement throughout the Superfund response process.

EPA's RCRA, Superfund and EPCRA Hotline, at (800) 424-9346, answers questions and references guidance pertaining to the Superfund program. Documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline. The Superfund Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Emergency Planning And Community Right-To-Know Act

The Superfund Amendments and Reauthorization Act (SARA) of 1986 created the Emergency Planning and Community Right-to-Know Act (EPCRA, also known as SARA Title III), a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state and local governments. Under EPCRA, states establish State Emergency Response Commissions (SERCs), responsible for coordinating

certain emergency response activities and for appointing Local Emergency Planning Committees (LEPCs).

EPCRA and the EPCRA regulations (40 CFR Parts 350-372) establish four types of reporting obligations for facilities which store or manage specified chemicals:

- **EPCRA § 302** requires facilities to notify the SERC and LEPC of the presence of any extremely hazardous substance at the facility in an amount in excess of the established threshold planning quantity. The list of extremely hazardous substances and their threshold planning quantities is found at 40 CFR Part 355, Appendices A and B.
- **EPCRA § 303** requires that each LEPC develop an emergency plan. The plan must contain (but is not limited to) the identification of facilities within the planning district, likely routes for transporting extremely hazardous substances, a description of the methods and procedures to be followed by facility owners and operators, and the designation of community and facility emergency response coordinators.
- **EPCRA § 304** requires the facility to notify the SERC and the LEPC in the event of a release exceeding the reportable quantity of a CERCLA hazardous substance (defined at 40 CFR 302) or an EPCRA extremely hazardous substance.
- **EPCRA § 311 and § 312** requires a facility at which a hazardous chemical, as defined by the Occupational Safety and Health Act, is present in an amount exceeding a specified threshold to submit to the SERC, LEPC and local fire department material safety data sheets (MSDSs) or lists of MSDSs and hazardous chemical inventory forms (also known as Tier I and II forms). This information helps the local government respond in the event of a spill or release of the chemical.
- **EPCRA § 313** requires certain covered facilities, including SIC codes 20 through 39 and others, which have ten or more employees, and which manufacture, process, or use specified chemicals in amounts greater than threshold quantities, to submit an annual toxic chemical release report. This report, commonly known as the Form R, covers releases and transfers of toxic chemicals to various facilities and environmental media. EPA maintains the data reported in a publically accessible database known as the Toxics Release Inventory (TRI).

All information submitted pursuant to EPCRA regulations is publicly accessible, unless protected by a trade secret claim.

EPA's RCRA, Superfund and EPCRA Hotline, at (800) 535-0202, answers questions and distributes guidance regarding the emergency planning and community right-to-know regulations. Documents and resources can be obtained from the hotline's homepage at <http://www.epa.gov/epaoswer/hotline>. The EPCRA Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Clean Air Act

The Clean Air Act (CAA) and its amendments are designed to “protect and enhance the nation's air resources so as to promote the public health and welfare and the productive capacity of the population.” The CAA consists of six sections, known as Titles, which direct EPA to establish national standards for ambient air quality and for EPA and the states to implement, maintain, and enforce these standards through a variety of mechanisms. Under the CAA, many facilities are required to obtain operating permits that consolidate their air emission requirements. State and local governments oversee, manage, and enforce many of the requirements of the CAA. CAA regulations appear at 40 CFR Parts 50-99.

Pursuant to Title I of the CAA, EPA has established national ambient air quality standards (NAAQSs) to limit levels of “criteria pollutants,” including carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone and sulfur dioxide. Geographic areas that meet NAAQSs for a given pollutant are designated as attainment areas; those that do not meet NAAQSs are designated as non-attainment areas. Under §110 and other provisions of the CAA, each state must develop a State Implementation Plan (SIP) to identify sources of air pollution and to determine what reductions are required to meet federal air quality standards. Revised NAAQSs for particulates and ozone were proposed in 1996 and will become effective in 2001.

Title I also authorizes EPA to establish New Source Performance Standards (NSPS), which are nationally uniform emission standards for new and modified stationary sources falling within particular industrial categories. The NSPSs are based on the pollution control technology available to that category of industrial source (*see* 40 CFR Part 60).

Under Title I, EPA establishes and enforces National Emission Standards for Hazardous Air Pollutants (NESHAPs), nationally uniform standards oriented toward controlling specific hazardous air pollutants (HAPs). Section 112(c) of the CAA further directs EPA to develop a list of sources that emit any of 188 HAPs, and to develop regulations for these categories of sources. To date EPA has listed 185 source categories and developed a schedule for the establishment of emission standards. The emission standards are being developed for both new and existing

sources based on “maximum achievable control technology” (MACT). The MACT is defined as the control technology achieving the maximum degree of reduction in the emission of the HAPs, taking into account cost and other factors.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms EPA uses to regulate mobile air emission sources.

Title IV-A establishes a sulfur dioxide and nitrogen oxides emissions program designed to reduce the formation of acid rain. Reduction of sulfur dioxide releases will be obtained by granting to certain sources limited emissions allowances that are set below previous levels of sulfur dioxide releases.

Title V of the CAA establishes an operating permit program for all “major sources” (and certain other sources) regulated under the CAA. One purpose of the operating permit is to include in a single document all air emissions requirements that apply to a given facility. States have developed the permit programs in accordance with guidance and regulations from EPA. Once a state program is approved by EPA, permits are issued and monitored by that state.

Title VI is intended to protect stratospheric ozone by phasing out the manufacture of ozone-depleting chemicals and restricting their use and distribution. Production of Class I substances, including 15 kinds of chlorofluorocarbons (CFCs), were phased out (except for essential uses) in 1996. Methyl bromide, a common pesticide, has been identified as a significant stratospheric ozone depleting chemical. The production and importation of methyl bromide, therefore, is currently being phased out in the United States and internationally. As specified in the Federal Register of June 1, 1999 (Volume 64, Number 104) and in 40 CFR Part 82, methyl bromide production and importation will be reduced from 1991 levels by 25 percent in 1999, by 50 percent in 2001, by 70 percent in 2003, and completely phased out by 2005. Some uses of methyl bromide such as the production, importation, and consumption of methyl bromide to fumigate commodities entering or leaving the United States or any state (or political subdivision thereof) for purposes of compliance with Animal and Plant Health Inspection Service requirements or with any international, federal, state, or local sanitation or food protection standard, will be exempt from this rule. After 2005, exceptions may also be made for critical agricultural uses. The United States EPA and the United Nations Environment Programme have identified alternatives to using methyl bromide in agriculture. Information on the methyl bromide phase-out, including alternative, can be found at the EPA Methyl Bromide Phase-Out Website: (<http://www.epa.gov/docs/ozone/mbr/mbrqa.html>).

EPA's Clean Air Technology Center, at (919) 541-0800 and at the Center's homepage at <http://www.epa.gov/ttn/catc>, provides general assistance and information on CAA standards. The Stratospheric Ozone Information Hotline, at (800) 296-1996 and at <http://www.epa.gov/ozone>, provides general information about regulations promulgated under Title VI of the CAA; EPA's EPCRA Hotline, at (800) 535-0202 and at <http://www.epa.gov/epaoswer/hotline>, answers questions about accidental release prevention under CAA §112(r); and information on air toxics can be accessed through the Unified Air Toxics website at <http://www.epa.gov/ttn/uatw>. In addition, the Clean Air Technology Center's website includes recent CAA rules, EPA guidance documents, and updates of EPA activities.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was first passed in 1947, and amended numerous times, most recently by the Food Quality Protection Act (FQPA) of 1996. FIFRA provides EPA with the authority to oversee, among other things, the registration, distribution, sale and use of pesticides. The Act applies to all types of pesticides, including insecticides, herbicides, fungicides, rodenticides and antimicrobials. FIFRA covers both intrastate and interstate commerce.

Establishment Registration

Section 7 of FIFRA requires that establishments producing pesticides, or active ingredients used in producing a pesticide subject to FIFRA, register with EPA. Registered establishments must report the types and amounts of pesticides and active ingredients they produce. The Act also provides EPA inspection authority and enforcement authority for facilities/persons that are not in compliance with FIFRA.

Product Registration

Under §3 of FIFRA, all pesticides (with few exceptions) sold or distributed in the United States must be registered by EPA. Pesticide registration is very specific and generally allows use of the product only as specified on the label. Each registration specifies the use site, i.e., where the product may be used, and the amount that may be applied. The person who seeks to register the pesticide must file an application for registration. The application process often requires either the citation or submission of extensive environmental, health or safety data.

To register a pesticide, the EPA Administrator must make a number of findings, one of which is that the pesticide, when used in accordance with widespread and

commonly recognized practice, will not generally cause unreasonable adverse effects on the environment.

FIFRA defines “unreasonable adverse effects on the environment” as “(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under §408 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a).”

Under FIFRA § 6(a)(2), after a pesticide is registered, the registrant must also notify EPA of any additional facts and information concerning unreasonable adverse environmental effects of the pesticide. Also, if EPA determines that additional data are needed to support a registered pesticide, registrants may be requested to provide additional data. If EPA determines that the registrant(s) did not comply with their request for more information, the registration can be suspended under FIFRA § 3(c)(2)(B) and § 4.

Use Restrictions

As a part of the pesticide registration, EPA must classify the product for general use, restricted use, or general for some uses and restricted for others (Miller, 1993). For pesticides that may cause unreasonable adverse effects on the environment, including injury to the applicator, EPA may require that the pesticide be applied either by or under the direct supervision of a certified applicator.

Reregistration

Due to concerns that much of the safety data underlying pesticide registrations becomes outdated and inadequate, in addition to providing that registrations be reviewed every 15 years, FIFRA requires EPA to reregister all pesticides that were registered prior to 1984 (§ 4). After reviewing existing data, EPA may approve the reregistration, request additional data to support the registration, cancel, or suspend the pesticide.

Tolerances and Exemptions

A tolerance is the maximum amount of pesticide residue that can be on a raw product and still be considered safe. Before EPA can register a pesticide that is used on raw agricultural products, it must grant a tolerance or exemption from a tolerance (40 CFR.163.10 through 163.12). Under the Federal Food, Drug, and Cosmetic Act (FFDCA), a raw agricultural product is deemed unsafe if it contains a pesticide residue, unless the residue is within the limits of a tolerance established by EPA or is exempt from the requirement.

Cancellation and Suspension

EPA can cancel a registration if it is determined that the pesticide or its labeling does not comply with the requirements of FIFRA or causes unreasonable adverse effects on the environment (Haugrud, 1993).

In cases where EPA believes that an “imminent hazard” would exist if a pesticide were to continue to be used through the cancellation proceedings, EPA may suspend the pesticide registration through an order and thereby halt the sale, distribution, and usage of the pesticide. An “imminent hazard” is defined as an unreasonable adverse effect on the environment or an unreasonable hazard to the survival of a threatened or endangered species that would be the likely result of allowing continued use of a pesticide during a cancellation process.

When EPA believes an emergency exists that does not permit a hearing to be held prior to suspending, EPA can issue an emergency order that makes the suspension immediately effective.

Imports and Exports

Under FIFRA §17(a), pesticides not registered in the United States and intended solely for export are not required to be registered provided that the exporter obtains and submits to EPA, prior to export, a statement from the foreign purchaser acknowledging that the purchaser is aware that the product is not registered in the United States and cannot be sold for use there. EPA sends these statements to the government of the importing country. FIFRA sets forth additional requirements that must be met by pesticides intended solely for export. The enforcement policy for exports is codified at 40 CFR 168.65, 168.75, and 168.85.

Under FIFRA §17(c), imported pesticides and devices must comply with United States pesticide law. Except where exempted by regulation or statute, imported pesticides must be registered. FIFRA §17(c) requires that EPA be notified of the arrival of imported pesticides and devices. This is accomplished through the Notice of Arrival (NOA) (EPA Form 3540-1), which is filled out by the importer prior to importation and submitted to the EPA regional office applicable to the intended port of entry. United States Customs regulations prohibit the importation of pesticides without a completed NOA. The EPA-reviewed and signed form is returned to the importer for presentation to United States Customs when the shipment arrives in the United States. NOA forms can be obtained from contacts in the EPA Regional Offices or www.epa.gov/oppfead1/international/noalist.htm.

Additional information on FIFRA and the regulation of pesticides can be obtained from a variety of sources, including EPA's Office of Pesticide Programs homepage at www.epa.gov/pesticides,

EPA's Office of Compliance, Agriculture and Ecosystem Division at <http://es.epa.gov/oeca/agecodiv>, or The National Agriculture Compliance Assistance Center toll-free at 888-663-2155 or <http://www.epa.gov/oeca/ag>. Other sources include the National Pesticide Telecommunications Network toll-free at 800-858-7378 and the National Antimicrobial Information Network toll-free at 800-447-6349.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) granted EPA authority to create a regulatory framework to collect data on chemicals in order to evaluate, assess, mitigate, and control risks which may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk. It is important to note that pesticides as defined in FIFRA are not included in the definition of a "chemical substance" when manufactured, processed, or distributed in commerce for use as a pesticide.

TSCA standards may apply at any point during a chemical's life cycle. Under TSCA §5, EPA has established an inventory of chemical substances. If a chemical substance is not already on the inventory, and has not been excluded by TSCA, a premanufacture notice (PMN) must be submitted to EPA prior to manufacture or import. The PMN must identify the chemical and provide available information on health and environmental effects. If available data are not sufficient to evaluate the chemical's effects, EPA can impose restrictions pending the development of information on its health and environmental effects. EPA can also restrict significant new uses of chemicals based upon factors such as the projected volume and use of the chemical.

Under TSCA § 6, EPA can ban the manufacture or distribution in commerce, limit the use, require labeling, or place other restrictions on chemicals that pose unreasonable risks. Among the chemicals EPA regulates under § 6 authority are asbestos, chlorofluorocarbons (CFCs), lead, and polychlorinated biphenyls (PCBs).

Under TSCA § 8(e), EPA requires the producers and importers (and others) of chemicals to report information on a chemicals' production, use, exposure, and risks. Companies producing and importing chemicals can be required to report unpublished health and safety studies on listed chemicals and to collect and record any allegations of adverse reactions or any information indicating that a substance may pose a substantial risk to humans or the environment.

EPA's TSCA Assistance Information Service, at (202) 554-1404, answers questions and distributes guidance pertaining to Toxic Substances Control Act standards. The Service operates from 8:30 a.m. through 4:30 p.m., EST, excluding federal holidays.

IV.B. Industry-Specific Requirements for Agricultural Livestock Production Industry

The agricultural livestock production industry discussed in this notebook is regulated by several different federal, state, and local agencies. EPA has traditionally relied on delegation to states to meet environmental standards, in many cases without regard to the methods used to achieve certain performance standards. This has resulted in states with more stringent air, water, and hazardous waste requirements than the federal minimum requirements. This document does not attempt to discuss state standards, but rather highlights relevant federal laws and proposals that affect the agricultural livestock production industry.

Clean Water Act

Under the CWA, there are five program areas that potentially affect agricultural establishments and businesses. These include: point source discharges, storm water discharges, nonpoint source pollution, wetland regulation, and sludge management. Key provisions addressing each of these areas are summarized below:

- **Point Source Discharges:** The CWA establishes a permitting program known as the NPDES program for “point sources” of pollution. The term “point source” includes facilities from which pollutants are or may be discharged to waters of the United States and is further defined at 40 CFR Part 122. If granted, the permit will place limits and conditions on the proposed discharges based on the performance of available control technologies and on any applicable (more stringent) water quality considerations. Usually the permit also will require specific compliance measures, establish schedules, and specify monitoring and reporting requirements.
- **Concentrated Animal Feeding Operations (CAFOs):** The CWA defines CAFOs as point sources. Therefore, CAFOs are subject to the NPDES permitting program. See 40 CFR Part 122.23 and 40 CFR 122 Appendix B. A CAFO is prohibited from discharging pollutants to waters of the U.S. unless it has obtained an NPDES permit for the discharge.
- < **Definition of an AFO –** An AFO is defined in EPA regulations as a lot or facility where (1) animals have been,

are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and (2) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

- < Definition of a CAFO – CAFOs are a subset of all AFOs. Whether an AFO is a CAFO under the regulations depends on the number of animals confined at the facility. A CAFO is defined as follows:

(1) More than 1,000 AUs are confined at the facility [40 CFR 122, Appendix B (a)]; **OR**

(2) ***From 301 to 1,000 AUs*** are confined at the facility and:

- Pollutants are discharged into waters of the U.S. through a man-made ditch, flushing system, or other similar man-made device; or
- Pollutants are discharged directly into waters of the U.S. that originate outside of and pass over, across, or through the facility or come into direct contact with the confined animals. [40 CFR 122, Appendix B (b)] **OR**

(3) The facility has been **designated as a CAFO** by the permitting authority on a ***case-by-case basis*** [40 CFR 122.23(c)], based on the permitting authority's determination that the operation is a "significant contributor of pollution." In making this determination, the permitting authority considers the following factors:

- Size of the operation;
- Amount of waste reaching waters of the United States;
- Location of the operation relative to waters of the U.S.;
- The means of conveyance of animal wastes and process wastewater into waters of the United States;

- The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes and process wastewater into waters of the U.S.; and
- Other relevant factors (e.g., waste handling and storage, land application timing, methods, rates and areas, etc.).

A permit application shall not be required from a concentrated animal feeding designated under the case-by-case authority until after the Director has conducted an on-site inspection and determined that the operation should and could be regulated under the NPDES permit program.

No animal feeding operation with less than the number of animals set forth in 40 CFR 122, Appendix B shall be designated as a concentrated animal feeding operation unless either (1) pollutants are discharged into waters of the U.S. through a manmade ditch, flushing system, or other similar means, or (2) pollutants are discharged directly into waters of the U.S. which originate outside of the facility and pass over, across, or through the facility, or otherwise come into direct contact with the animals confined in the operation.

The NPDES permit regulations [40 CFR 122, Appendix B] contain an exemption for any AFO from being defined as a CAFO if it discharges only in the event of a 25 year, 24-hour, or larger, storm event. To be eligible for an exemption, the facility must demonstrate to the permitting authority that it has not had a discharge. It must also demonstrate that the entire facility is designed, constructed, and operated to contain a storm event of this magnitude in addition to process wastewater. An operation that qualifies for this exemption from being defined as a CAFO may still be designated as a CAFO by the permitting authority on a case-by-case basis.

A 25-year, 24-hour rainfall event means the maximum precipitation event with a probable occurrence of once in 25 years, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments, or equivalent regional or state rainfall probability information developed therefrom [40 CFR Part 412.11(e)].

- **Storm Water Discharges:** Under 40 CFR §122.2, the definition of "point source" excludes agricultural storm water runoff. Thus, such runoff is not subject to the storm water permit application regulations at 40 CFR §122.26. Non-agricultural storm water discharges, however, are regulated if the discharge results from construction over 5 acres or certain other types of industrial activity such as landfills, automobile junk yards, vehicle maintenance facilities, etc.
- **Concentrated Aquatic Animal Production Facilities.** Under 40 CFR Part 122.24, a *concentrated aquatic animal production facility* is defined and designated as a point source subject to the NPDES permit program.
 - < Definition of concentrated aquatic animal production facility (40 CFR Part 122 Appendix C) -- A *concentrated aquatic animal production facility* is a hatchery, fish farm, or other facility that meets one of the following criteria:
 - (1) A facility that contains, grows, or holds cold water fish species or other cold water aquatic animals in ponds, raceways, or similar structures which discharge at least 30 days per year. The term does not include (a) facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year, and (b) facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding. Cold water aquatic animals include, but are not limited to, the *salmonidae* family (e.g., trout and salmon).
 - (2) A facility that contains, grows, or holds warm water fish species or other warm water aquatic animals in ponds, raceways, or similar structures which discharge at least 30

days per year. The term does not include (a) facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year or (b) closed ponds which discharge only during periods of excess runoff. Warm water aquatic animals include, but are not limited to, the *Ameiuridae*, *Centrarchidae*, and *Cyprinidae* families of fish (e.g., respectively catfish, sunfish, and minnows).

Designated facility -- A facility that does not otherwise meet the criteria in 40 CFR Part 122 Appendix C (described above) may be *designated* as a concentrated aquatic animal production facility if EPA or an authorized state determines the production facility is a significant contributor of pollution to waters of the U.S. No permit is required for such a designated facility until the EPA or state officials have conducted an onsite inspection and determined that the facility should be regulated under the NPDES permit program.

- **Aquaculture Projects.** Under 40 CFR Part 122.25(b), *aquaculture* means a defined, managed water area that uses discharges of pollutants to maintain or produce harvestable freshwater, estuarine, or marine plants or animals. Discharges into approved aquaculture projects are not required to meet effluent limitations that might otherwise apply. The entire aquaculture project (discharges into and out of the project) is addressed in an NPDES permit.

Wastewater Effluent Guidelines for Dairy Product Processing Establishments. Under 40 CFR Part 405, discharges from twelve categories of dairy products processing are subject to the NPDES permit program. Effluent limitations are established for BOD, TSS, and pH. The effluent guidelines establish technology-based pretreatment standards and effluent limitations for each category.

- **Wastewater Effluent Guidelines for Feedlots (CAFOs).** Under 40 CFR Part 412, feedlot (beef cattle, dairy cattle, swine, sheep, etc.) point sources are subject to the NPDES permit program. The effluent guidelines establish technology-based pretreatment standards and effluent limitations for this category. In general, the current guidelines for feedlots prohibit any discharge of

process wastewater to navigable waters, except in the case of a 25-year, 24-hour rainfall event. CAFOs over 1,000 animal units with NPDES permits may discharge pollutants when chronic or catastrophic rainfall events cause an overflow from a facility designed, constructed, and operated to contain all process wastewater plus the runoff from a 25-year, 24-hour storm for the location of the point source.

- **Nonpoint Source Pollution.** Under the CWA §319 Nonpoint Source (NPS) Management Program and 40 CFR §130.6, states (tribes, and territories) establish programs to manage NPS pollution, including runoff and leaching of fertilizers and pesticides, and irrigation return flows. These NPS management programs must identify: (a) best management practices (BMPs) to be used in reducing NPS pollution loadings; (b) programs to be used to assure implementation of BMPs; (c) a schedule for program implementation with specific milestones; and (d) sources of federal or other funding that will be used each year for the support of the state's NPS pollution management program. Congress provides grant funds to the states annually for the administration of these management programs.
- **Discharges to Publicly Owned Treatment Works (POTWs).** Under 40 CFR Part 403, facilities, including agricultural establishments, may discharge certain substances to a POTW if the facility has received prior written permission from the POTW and has completed any required pretreatment. Facilities must check with their POTWs for information about permitted discharges and for conditions and limitations.
- **Discharges of Designated Hazardous Substances.** Under 40 CFR Parts 116-117, facilities, including agricultural establishments, must immediately notify the National Response Center (1-800-424-8802) and their state agency of any unauthorized discharge of a designated hazardous substance into (1) navigable waters, (2) the shorelines of navigable waters, or (3) contiguous zones, if the quantity discharged in any 24-hour period equals or exceeds the reportable quantity. A *designated hazardous substance* is any chemical listed in Section 311 of the Clean Water Act. The *reportable quantity* is the amount of the hazardous substance that EPA has determined might cause harm. The list of hazardous substances along with each chemical's reportable quantity is found in 40 CFR Parts 116 and 117. Ammonia and several pesticides are on the list.
- **Discharges of Oil.** Under 40 CFR Part 110, facilities must immediately notify EPA's National Response Center (1-800-424-8802) of any unauthorized discharge of a *harmful quantity of oil* (including petroleum,

fuel oil, sludge, oil refuse, or oil mixed with other wastes) into (1) navigable waters, (2) the shorelines of navigable waters, or (3) contiguous zones and beyond. A discharge of oil is considered harmful if it violates applicable water quality standards, causes a sludge or emulsion to be deposited under the surface of the water or on adjoining shorelines, or causes a film or sheen on, or discoloration of, the water or adjoining shorelines. In practice, any quantity of oil or a petroleum product is a harmful quantity, since even small amounts will cause a film or sheen on surface water.

- **Oil Spill Prevention Control and Countermeasure (SPCC) Program.** Under 40 CFR Part 112, facilities, including agricultural establishments, must comply with EPA's SPCC program when they store oil at their facility. SPCC requirements apply to non-transportation related onshore and offshore facilities of specified size engaged in storing, processing, refining, transferring or consuming oil products, which due to their location, could potentially discharge oil into waters of the U.S. or adjoining shorelines.

Facilities must comply with the SPCC program: (1) if they have a single aboveground container with an oil storage capacity of more than 660 gallons, multiple aboveground containers with a combined oil storage capacity of more than 1,320 gallons, or a total underground oil storage capacity of more than 42,000 gallons *and* (2) if there is a reasonable expectation that a discharge (spill, leak, or overfill) from the tank will release harmful quantities of oil into navigable waters or adjoining shorelines. The requirements are triggered by tank capacity, regardless of whether tanks are completely filled.

Facilities subject to the SPCC requirements must prepare an SPCC plan. This plan must include: (1) *prevention* measures that keep oil releases from occurring, (2) *control* measures installed to prevent oil releases from reaching navigable waters, and (3) *countermeasures* to contain, clean up, and mitigate the effects of any oil release that reaches navigable waters. Each plan must be unique to the facility and must be signed by a registered professional engineer.

- **Wetlands on Agricultural Lands.** Swamps, marshes, fens, bogs, vernal pools, playas, and prairie potholes are common names for wetlands. Wetlands provide a habitat for threatened and endangered species as well as a diversity of other plant, wildlife, and fish species. In addition to

providing habitat, wetlands serve other functions, including stabilizing shorelines; storing flood waters; filtering sediments, nutrients, and toxic chemicals from water; and providing an area for the recharge and discharge of groundwater. It is important to note that not all wetlands will be obvious to the untrained observer. For example, an area can appear dry during much of the year and still be classified as a wetland. Your local Natural Resources Conservation Service (NRCS) office can help to identify and delineate wetlands on your property.

NRCS, formerly the Soil Conservation Service, is the lead agency for identifying wetlands on *agricultural lands*. According to NRCS, agricultural lands means those lands intensively used and managed for the production of food or fiber to the extent that the natural vegetation has been removed and therefore does not provide reliable indicators of wetland vegetation. Areas that meet this definition may include intensively used and managed cropland, hayland, pastureland, orchards, vineyards, and areas that support wetland crops (e.g., cranberries, taro, watercress, rice). Lands not included in the definition of *agricultural lands* include rangelands, forest lands, woodlots, and tree farms.

- ***Exemption to Section 404 Permit Requirements.*** The placement of dredge and fill material into wetlands and other water bodies (i.e., waters of the United States) is regulated by the U.S. Army Corps of Engineers (Corps) under 33 CFR Part 328. The Corps regulates wetlands by administering the CWA Section 404 permit program for activities that impact wetlands. The 404 permit program requires a permit for point source discharges of dredged and fill material into waters of the United States. However, many normal established farming activities (e.g., plowing, cultivating, minor drainage, and harvesting), silviculture, and ranching activities that involve discharges of dredged or fill materials into U.S. waters are **exempt from Section 404 permits** and do **NOT** require a permit (33 CFR §323.4). In order to be exempt, the activity must be part of an ongoing operation and cannot be associated with bringing a wetland into agricultural production or converting an agricultural wetland to a non-wetland area.

If not covered by the above exemption, a permit is required before discharging dredged or fill material into U.S. waters, including most wetlands (33 CFR Part 323). The Army Corps of Engineers (Corps) reviews Section 404 permit applications to determine if a project is the least environmentally damaging and practicable alternative.

- **POTW Sludge Management - Land Application of Biosolids.** Land application is the application of biosolids to land to either condition the soil or fertilize crops or other vegetation grown in the soil. Biosolids are a primarily organic solid product produced by wastewater treatment processes that can be beneficially recycled.

EPA regulates the land application of biosolids under 40 CFR Part 503. As described in *A Plain English Guide to the EPA Part 503 Biosolids Rule* (EPA/832/R-93-003, September 1994), the Part 503 rule includes general provisions, and requirements for land application, surface disposal, pathogen and vector attraction reduction, and incineration. For each regulated use or disposal practice, a Part 503 standard includes general requirements, pollutant limits, management practices, operational standards, and requirements for the frequency of monitoring, recordkeeping, and reporting. For the most part, the requirements of the Part 503 rule are *self-implementing* and must be followed even without the issuance of a permit covering biosolids use or disposal requirements.

- **Total Maximum Daily Load (TMDL) Program.** There are still waters in the nation that do not meet the CWA national goal of "fishable, swimmable" despite the fact that nationally required levels of pollution control technology have been implemented by many pollution sources. The TMDL program, established under Section 303(d) of the Clean Water Act, focuses on identifying and allocating pollutant loads to these waterbodies. The goal of a TMDL is the attainment of water quality standards.

A TMDL identifies the amount a pollutant needs to be reduced to meet water quality standards, allocates pollutant load reductions among pollutant sources in a watershed, and provides the basis for taking actions needed to restore a waterbody. It can identify the need for point source and nonpoint source controls.

Under this provision, States are required to (1) identify and list waterbodies where State water quality standards are not being met following the application of technology-based point source pollution controls; and (2) establish TMDLs for these waters. EPA must review and approve (or disapprove) State lists and TMDLs. If State actions are not adequate, EPA must prepare lists and TMDLs. TMDLs are to be implemented using existing federal, state, and local authorities and voluntary programs.

TMDLs should address all significant pollutants which cause or threaten to cause waterbody use impairment, including:

- Point sources (e.g., sewage treatment plant discharges)
- Nonpoint sources (e.g., runoff from fields, streets, range, or forest land)
- Naturally occurring sources (e.g., runoff from undisturbed lands)

A TMDL is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources and natural background pollutants, and an appropriate margin of safety. TMDLs may address individual pollutants or groups of pollutants, as long as they clearly identify the links between: (1) the waterbody use impairment or threat of concern, (2) the causes of the impairment or threat, and (3) the load reductions or actions needed to remedy or prevent the impairment.

TMDLs may be based on readily available information and studies. In some cases, complex studies or models are needed to understand how pollutants are causing waterbody impairment. In many cases, simple analytical efforts provide an adequate basis for pollutant assessment and implementation planning.

Where inadequate information is available to draw precise links between these factors, TMDLs may be developed through a phased approach. The phased approach enables states to use available information to establish interim targets, begin to implement needed controls and restoration actions, monitor waterbody response to these actions, and plan for TMDL review and revision in the future. Phased approach TMDLs are particularly appropriate to address nonpoint source issues.

Numerous TMDLs are under development in many states and TMDLs are likely to impact agricultural activities by prompting states and stakeholders to mitigate water pollution caused by agricultural sources (assuming agriculture-related industries are identified as significant contributors to water quality impairment).

Coastal Zone Act Reauthorization Amendments of 1990

The Coastal Nonpoint Pollution Control Program, which is implemented under the authority of Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990, is administered at the federal level jointly by EPA and the National Oceanic and Atmospheric Agency (NOAA). The Section 6217 program requires the 29 states and territories with NOAA-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs. These submitted programs must include: (1) management measures that are in conformity with applicable federal guidance and (2) state-developed

management measures as necessary to achieve and maintain applicable water quality standards.

On January 19, 1993, EPA issued its *Guidance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters*. The federal guidance specifies management measures for the following agricultural sources: (1) erosion from cropland, (2) confined animal facilities, (3) the application of nutrients to croplands, (4) the application of pesticides to cropland, (5) grazing management, and (6) irrigation of cropland.

Once approved, the programs are implemented through state nonpoint source programs (under CWA §319) and state coastal zone management programs (authorized under §306 of the Coastal Zone Management Act). Agricultural establishments located in coastal states should determine whether their land is included in the state's coastal management area. If so, they must comply with their state's applicable coastal nonpoint programs. Currently, all state coastal nonpoint management programs have been conditionally approved and have begun to be implemented.

Coastal Zone Management Act

The 1996 amendments to the Coastal Zone Management Act that may affect agriculture-related industries include those that relate to aquaculture in the coastal zone. Eligible states may now receive grants for developing a coordinated process among state agencies to regulate and issue permits for aquaculture facilities in the coastal zone. States may also receive grants for adopting procedures and policies to evaluate facilities in the coastal zone that will enable the states to formulate, administer, and implement strategic plans for marine aquaculture. Each state that receives such grants will make its own determination as part of its coastal management plan on how to specifically use the funds. Therefore, persons engaged in aquaculture productivity in the coastal zone may be eligible for technical or financial assistance under their state's plan.

Safe Drinking Water Act

The SDWA, which has been amended twice since 1974, protects the water supply through water quality regulations and source protection, such as underground injection control (UIC) regulations. SDWA requirements apply to all public water systems (PWSs). Currently, 54 of 56 states and territories have been delegated primacy to run the drinking water program.

- **Public Water Systems.** Under 40 CFR Parts 141-143, facilities that operate a PWS or receive water from a PWS and provide treatment to it

are subject to SDWA regulations. Prior to 1996, SDWA defined a PWS as “a system for the provision to the public of piped water *for human consumption* if such system has at least 15 service connections or regularly serves at least 25 individuals.” The 1996 Amendments expanded the means of delivering water to include not only pipes, but also other constructed conveyances such as ditches and waterways.

While there are three categories of PWSs, an agricultural establishment will most likely operate a non-transient, non-community system. This type of system serves at least 25 people for over 6 months of the year, but the people generally do not live at the facility. All PWSs must comply with the national primary drinking water regulations (40 CFR 141). Under 40 CFR Part 141 Subpart G, EPA has established drinking water standards for numerous pesticides.

Establishments that operate a non-transient, non-community system, in general, will need to: (1) monitor for the contaminants the state has established for that type of system, (2) keep records of the monitoring results, (3) report results from all tests and analyses to the state/tribe on a set schedule, (4) take immediate action to correct any violations in the allowable contaminant levels, (5) make a public announcement of any violations to warn people about potential adverse effects and to describe the steps taken to remedy the problem, and (6) keep records of actions taken to correct violations.

- **Comprehensive State Ground Water Protection Program.** Under the SDWA §1429, states/tribes are allowed to establish a Comprehensive State Ground Water Protection Program to protect underground sources of drinking water. Under this program, a state/tribe can require facilities, including agricultural establishments, to use designated best management practices (BMPs) to help prevent contamination of groundwater by nitrates, phosphates, pesticides, microorganisms, or petroleum products. These requirements generally apply only to facilities that are subject to the public water system supervision program. Persons applying pesticides or fertilizers must know the location of all the public water supply source areas in the vicinity that are protected by state/tribal (and sometimes local) requirements.
- **Source Water and Protection Program.** Under the SDWA, states are required to develop comprehensive Source Water Assessment Programs (SWAP). The statutorily defined goals for SWAPs are to provide for the protection and benefit of public water systems and for the support of monitoring flexibility. These programs plan to identify the areas that supply

public tap water, inventory contaminants and assess water system susceptibility to contamination, and inform the public of the result.

- **Wellhead Protection Program.** Under the SDWA §1428, if a facility, has an onsite water source (e.g., well) that qualifies as a PWS, it must take the steps required by the state/tribe to protect the wellhead from contaminants. A wellhead protection area is the surface and subsurface area surrounding a water well or wellfield supplying a PWS through which contaminants are reasonably likely to move toward and reach such water well or wellfield.

Since drinking water standards (40 CFR Part 141 Subpart G) exist for numerous pesticides, which may be used in various agriculture-related activities, some state/tribe and local wellhead and source water protection programs restrict the use of agricultural chemicals in designated wellhead protection areas. In addition, persons applying pesticides or fertilizers must know the location of all the public water supply source areas in the vicinity that are protected by state/tribal (and sometimes local) requirements, and the requirements for mixing, loading, and applying agricultural chemicals within any designated wellhead or source water protection areas.

- **Sole Source Aquifer Protection Program.** Under the SDWA §1424 and 40 CFR Part 149 Subpart B, EPA can establish requirements for protecting sole source aquifers. EPA designates an aquifer as a *sole source aquifer* if it supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer and no alternative drinking water sources are feasible. The Sole Source Aquifer program prohibits federal financial assistance (any grant, contract, loan guarantee, or otherwise) for any project, including agricultural projects, that may result in contamination to the aquifer and create a hazard to public health. Currently, only a few aquifers have been designated as protected sole source aquifers.
- **Underground Injection Control (UIC) Program.** The UIC program (40 CFR Parts 144 and 146-148) is a permit program that protects underground sources of drinking water by regulating five classes of injection wells (I - V). *Underground injection* means depositing fluids beneath the surface of the ground by injecting them into a hole (any hole that is deeper than it is wide). *Fluids* means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

If a facility disposes of (or formerly disposed of) waste fluids onsite in an injection well, it triggers the UIC requirements. In general, a facility may

not inject contaminants into any well if the contaminant could cause a violation of any primary drinking water regulation or endanger an underground source of water if the activity would adversely affect the public health. Most deep well underground injections are prohibited without a UIC permit. No Class I, II, or III injection well may be constructed or opened before a permit has been issued. UIC permits include design, operating, inspection, and monitoring requirements. In many states/tribes, EPA has authorized the state/tribal agency to administer the program.

Class V Wells. Owners/operators of Class V wells (shallow wells that inject fluids above an underground source of water) must not construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation (40 CFR Part 142) or may otherwise adversely affect the health of persons. Examples of Class V wells potentially applicable to agricultural establishments include, but are not limited to:

- (1) Drainage wells, such as agricultural drainage wells, primarily used for storm runoff.
- (2) Cesspools with open bottoms (and sometimes perforated sides) and septic system wells used to inject waste or effluent from multiple dwellings or businesses (the UIC requirements do not apply to single family residential septic system or cesspool wells or to non-residential septic system or cesspool wells that are used solely for the disposal of sanitary wastes and have the capacity to serve fewer than 20 persons per day).
- (3) Dry wells used for waste injection.
- (4) Recharge wells used to replenish aquifers.
- (5) Injection wells associated with the recovery of geothermal energy for heating, aquaculture, and production of electric power.
- (6) Floor drains in maintenance shops/work areas.

Agricultural drainage wells typically drain water from low-lying farm land, but some serve to recharge aquifers from which irrigation water is withdrawn. These wells are usually constructed in areas with poor soil drainage, but where underlying geologic formations allow rapid infiltration of water. Sometimes abandoned water supply wells are adapted for use in agricultural drainage. Agricultural drainage wells typically receive field drainage from saturated topsoil and subsoil, and from precipitation, snowmelt, floodwaters, irrigation return flow, and animal feedlots. The types of pollutants injected into these wells include (1) pesticide runoff, (2) nitrate, nitrite, and salts, such as those of calcium, magnesium, sodium, potassium, chloride, sulfate, and carbonate from fertilizer runoff, (3) salts and metals (i.e., iron, lead, cadmium, and mercury) from biosolid sludges and compost, (4) microbes (i.e., bacteria and viruses) from animal waste runoff, and (5) petroleum contaminants, such as fuel and oil, from runoff from roads or equipment maintenance areas.

If a facility has a Class V well, it must furnish inventory information about the well to the appropriate state/tribal agency. If at any time EPA or the state/tribal agency learns that a Class V well may cause a violation of primary drinking water regulations (40 CFR Part 142) or may be otherwise adversely affecting the health of persons, it may require the injector to obtain an individual UIC permit, or order the injector to take such actions (including, where required, closure of the injection well) as may be necessary to prevent the violation.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted to address problems related to hazardous and solid waste management. RCRA gives EPA the authority to establish a list of solid and hazardous wastes and to establish standards and regulations for the treatment, storage, and disposal of these wastes. Regulations in Subtitle C of RCRA address the identification, generation, transportation, treatment, storage, and disposal of hazardous wastes. These regulations are found in 40 CFR Part 124 and 40 CFR Parts 260-279. Under RCRA, persons who generate waste must determine whether the waste is defined as solid waste or hazardous waste. Solid wastes are considered hazardous wastes if they are listed by EPA as hazardous or if they exhibit characteristics of a hazardous waste: toxicity, ignitability, corrosivity, or reactivity.

Most agriculture-related activities do not generate significant amounts of hazardous waste. Generally, the activities potentially subject to RCRA involve the use of pesticides and fertilizers, and the use and maintenance of different types of machinery.

Hazardous Waste Generator Categories. Facilities that generate hazardous waste can be classified into one of three hazardous waste generator categories as defined in 40 CFR Part 262:

- ***Conditionally exempt small quantity generator (CESQG).*** A facility is classified as a CESQG if it generates no more than 220 lbs (100 kg) of hazardous waste in a calendar month. There is no time limit for accumulating #2,200 lbs of hazardous waste onsite. However, CESQGs cannot store more than 2,200 lbs (1,000 kg) of hazardous waste onsite at any time. In addition, CESQGs cannot accumulate onsite more than 2.2 lbs (1 kg) of acutely hazardous waste or more than 220 lbs spill residue from acutely hazardous waste for any period of time.
- ***Small quantity generator (SQG).*** A facility is classified as a SQG if it generates >220 lbs (100 kg) and <2,200 lbs (1,000 kg) of hazardous waste in a calendar month. SQGs can accumulate onsite no more than 13,200 lbs (6,000 kg) of hazardous waste. SQGs can store hazardous waste onsite for up to 180 days (or up to 270 days if the waste treatment/disposal facility is more than 200 miles away).
- ***Large quantity generator (LQG).*** A facility is classified as a LQG if it generates > 2,200 lbs (1,000 kg) of hazardous waste in a calendar month. While there is no limit on the amount of hazardous waste that LQGs can accumulate onsite, they can only store it onsite for up to 90 days.

If a facility is a CESQG and generates #2.2 lbs (1 kg) of acutely hazardous waste; or #220 lbs (100 kg) of acutely hazardous waste spill residues in a calendar month, and never stores more than that amount for any period of time, it may manage the acutely hazardous waste according to CESQG requirements. If it generates more than 2.2 lbs (1 kg) of acutely hazardous waste or >220 lbs (100 kg) of acutely hazardous waste spill residues in a calendar month, the facility must manage it according to LQG requirements.

The hazardous wastes that must be measured are those: (1) accumulated at the facility for any period of time before disposal or recycling, (2) packaged and transported away from the facility, (3) placed directly into a treatment or disposal unit at the facility, or (4) generated as still bottoms or sludges *and* removed from product storage tanks.

Requirements for CESQGs. Based on the quantity of hazardous waste generated per month, most agricultural establishments will qualify as CESQGs. As CESQGs, facilities must comply with three basic waste management requirements:

- (1) Identify all hazardous waste generated.

- (2) Do not generate per month more than 220 lbs (100 kg) of hazardous waste; more than 2.2 lbs (1 kg) of acutely hazardous waste; or more than 220 lbs (100 kg) of acutely hazardous waste spill residues; and never store onsite more than 2,200 lbs (1,000 kg) of hazardous waste; 2.2 lbs of acutely hazardous waste; or more than 220 lbs of acutely hazardous waste spill residues for any period of time.
- (3) Ensure proper treatment and disposal of the waste. This means ensuring that the disposal facility is one of the following:
- A state or federally regulated hazardous waste management treatment, storage, or disposal facility.
 - A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste.
 - A facility that uses, reuses, or legitimately recycles the waste (or treats the waste before use, reuse, or recycling).
 - A universal waste handler or destination facility subject to the requirements for universal wastes.

CESQGs are allowed to transport their own wastes to the treatment or storage facility, unlike SQGs and LQGs who are required to use a licensed, certified transporter. While there are no specific RCRA requirements for CESQGs who transport their own wastes, the U.S. Department of Transportation (DOT) requires all transporters of hazardous waste to comply with all applicable DOT regulations. Specifically, DOT regulations require all transporters, including CESQGs, transporting hazardous waste that qualifies as a DOT hazardous material to comply with EPA hazardous waste transporter requirements found in 40 CFR Part 263. CESQGs are not required by federal hazardous waste laws to train their employees on waste handling or emergency preparedness.

Requirements for SQGs and LQGs. Facilities determined to be SQGs or LQGs must meet many requirements under the RCRA regulations. These requirements, found in 40 CFR 260-279, include identifying hazardous waste; obtaining an EPA identification numbers; meeting requirements for waste accumulation and storage limits; container management; conducting personnel training; preparing a manifest; ensuring proper hazardous waste packaging, labeling, and placarding; reporting and recordkeeping; and contingency planning, emergency procedures, and accident prevention.

Notes: Facilities that fall into different generator categories during different months may choose to simplify compliance by satisfying the more stringent requirements all the time.

Specific Provisions. RCRA regulations include several specific provisions addressing agriculture-related materials and activities. Key provisions are briefly summarized below:

- ***Exemption for Certain Solid Wastes Used as Fertilizers.*** Under 40 CFR §261.4(b), solid wastes generated by (1) growing and harvesting of agricultural crops, or (2) raising animals (including animal manure), and that are returned to the soils as fertilizers are excluded from regulation as hazardous waste.
- ***Exemption for Certain Hazardous Waste Pesticides.*** Under 40 CFR §262.70, farmers who generate any amount of hazardous waste pesticides from their own use are excluded from the generator, treatment/storage/disposal facility, land disposal, and permit requirements under RCRA Subtitle C, provided that the farmer: (1) disposes of the waste pesticide in a manner consistent with the label on the pesticide container; (2) triple rinses each empty container in accordance with requirements at 40 CFR §261.7(b)(3); and (3) disposes of the rinsate on his own farm in accordance with the instructions on the label. If the label does not include disposal instruction, or no instructions are available from the pesticide manufacturer, the waste pesticide and rinsate must be disposed of in accordance with Subtitle C hazardous waste requirements. (Also see 40 CFR Part 165 - FIFRA)
- ***Exemption for Commercial Fertilizers.*** Under 40 CFR §266.20, commercial fertilizers produced for general public (including agricultural) use that contain recyclable materials are not presently subject to regulation provided they meet the applicable land disposal restriction (LDR) standards for each recyclable material they contain. For example, zinc-containing fertilizers containing K061 (emission control dust from the primary production of steel in electric furnaces) are not subject to regulation.
- ***Fertilizers Made from Hazardous Wastes.*** Under 40 CFR Parts 266 and 268, EPA regulates fertilizers containing hazardous wastes as ingredients. Hazardous wastes may be used as ingredients in fertilizers under certain conditions, since such wastes can be a beneficial component of legitimate fertilizers. EPA has established standards that specify limits on the levels of heavy metals and other contents used as fertilizer ingredients. These standards are based on treatment, by the best technology currently available, to reduce the toxicity and mobility of all the contents of the hazardous waste components. These standards are based on waste management considerations and do not include consideration of the potential agronomic or dietary risk.

- ***Food Chain Crops Grown on Hazardous Waste Land Treatment Units.*** Under 40 CFR Part 264.276, food chain crops (including feed for animals consumed by humans) may be grown in or on hazardous waste land treatment units under certain conditions and only with a permit. The permit for a facility will list the specific food-chain crops that may be grown. To obtain a permit, the owner/operator of the facility wishing to grow the food-chain crops must demonstrate -- prior to the planting of such crops -- that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone.
- ***Solid Waste Disposal Criteria.*** Under RCRA Subtitle D, 40 CFR 257.3 establishes solid waste disposal criteria addressing floodplains, endangered species, groundwater protection, application to land used for food chain crops, disease vectors, air pollution, and safety. These criteria are largely guidelines used by states in developing solid waste regulations, which control the disposal of waste on a farmer's property.
- ***Land Application of Fertilizers Derived from Drinking Water Sludge.*** Under 40 CFR Part 257, EPA regulates the land application of solid wastes, including drinking water sludge applied as fertilizer. These requirements include: (1) cadmium limits on land used for the production of food-chain crops (tobacco, human food, and animal feed) or alternative less stringent cadmium limits on land used solely for production of animal feed; (2) polychlorinated biphenyls (PCBs) limits on land used for producing animal feed, including pasture crops for animals raised for milk; and (3) minimization of disease vectors, such as rodents, flies, and mosquitoes, at the site of application through incorporation of the fertilizer into soil so as to impede the vectors' access to the sludge.
- ***Pesticides That Are Universal Wastes.*** Under 40 CFR Part 273, EPA has established a separate set of requirements for three types of wastes called *universal wastes*. Universal wastes include certain batteries, certain pesticides, and mercury thermostats. Pesticides designated as universal wastes include (1) recalled pesticides that are stocks of a suspended or canceled pesticide and part of a voluntary or mandatory recall under FIFRA §19(b); (2) recalled pesticides that are stocks of a suspended or canceled pesticide, or a pesticide that is not in compliance with FIFRA, that are part of a voluntary recall [see FIFRA §19(b)(2)] by the registrant; and (3) stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program.

The Universal Waste rule is *optional* for states/tribe to adopt. In those states/tribes that have not adopted the Universal Waste rule, these wastes

must be disposed of in accordance with the hazardous (or acutely hazardous) waste requirements (see 40 CFR Part 262).

- ***Exemption for Small Quantities of Used Oil.*** Under 40 CFR §279.20, agricultural establishments that generate an average of 25 gallons or less of used oil per month per calendar year from vehicles or machinery used on the establishment are not subject to the requirements of 40 CFR Part 279.
- ***Exemption for “Farm Tanks” and Tanks of 110 Gallons or Less.*** Under the underground storage tank (UST) regulations (RCRA Subtitle I, 40 CFR §280.12), “farm tanks” of 1,100 gallons or less capacity used for storing motor fuel for non-commercial purposes are not regulated as underground storage tanks. “Farm tanks” include tanks located on a tract of land devoted to the production of crops or raising animals (including fish) and associated residences and improvements. Also under 40 CFR §280.10, the UST program does not apply to UST systems of 110 gallons or less capacity, or that contain a *de minimis* concentration of a regulated substance.

Even with the above exemptions, keep in mind that many agricultural establishments may be subject to the UST program (40 CFR Part 280). The UST regulations apply to facilities that store either petroleum products or hazardous substances (except hazardous wastes) identified under CERCLA. UST regulations address design standards, leak detection, operating practices, response to releases, financial responsibility for releases, and closure standards.

Comprehensive Environmental Response, Compensation, and Liability Act

Under CERCLA, there are a limited number of statutory and regulatory requirements that potentially affect agricultural businesses. The key provisions are summarized below:

- ***Emergency Release Notification Requirements.*** Under CERCLA §103(a), facilities are required to notify the National Response Center about any release of a CERCLA hazardous substance in quantities equal to or greater than its reportable quantity (RQ). Releases include discharges into the air, soil, surface water, or groundwater. Any release at or above the RQ must be reported regardless of whether there is a potential for offsite exposure.
 - ***Hazardous Substances.*** The term “hazardous substance” is defined in CERCLA §101(14) and these substances (more than

700) are listed at 40 CFR Part 302, Table 302.4. Several agricultural chemicals are on the CERCLA hazardous substance list, including many pesticides, anhydrous ammonia, and ethylene glycol.

- ***Reportable Quantities.*** For each hazardous substance, EPA has designated a RQ of 1, 10, 100, 1,000, or 5,000 pounds. RQs are listed in 40 CFR Part 355, Appendices A and B and 40 CFR Part 302, Table 302.4.
- ***When No Notification is Required.*** There are several types of releases that are excluded from the requirements of CERCLA release notification. Two of these releases, excluded under CERCLA §§101(22) and 103(e), include the normal application of fertilizer and the application of pesticide products registered under FIFRA. *Keep in mind that spills, leaks, or other accidental or unintended releases of fertilizers and pesticides are subject to the reporting requirements.*
- **Facility Notification and Recordkeeping Requirements - Exemption for Agricultural Producers.** Under CERCLA §§103(c) and (d), certain facilities must notify EPA of their existence and the owners/operators must keep records. However, CERCLA §103(e) exempts agricultural producers who store and handle FIFRA-registered pesticides from the facility notification and recordkeeping requirements. CERCLA does not define the term *agricultural producer*.
- **Liability for Damages.** Under CERCLA §107(a), an owner/operator of a facility that has CERCLA hazardous substances onsite may be liable for cleanup costs, response costs, and natural resource damages associated with a release or threatened release of hazardous substances. Agricultural establishments are potentially liable under this section, and that liability extends to past practices.

Emergency Planning and Community Right-to-Know Act

A summary of the potential applicability of specific sections of EPCRA on the agricultural sector follows below.

- **Emergency Planning and Notification.** Under EPCRA §302, owners or operators of any facility, including agricultural establishments, that have *extremely hazardous substances* (40 CFR Part 355 Appendices A and B) present in excess of the *threshold planning quantity* must notify in

writing their state emergency response commission (SERC) and their local emergency planning committee (LEPC) that they are subject to EPCRA planning requirements. Under EPCRA §303, they must also notify the LEPC of the name of a person at their facility whom the LEPC may contact in regard to planning issues related to these extremely hazardous substances. They must also inform the LEPC promptly of any relevant changes, and when requested, must provide information to the LEPC necessary for emergency planning.

Ammonia, several agricultural pesticides, and certain fuels are included on the list of extremely hazardous substances found in 40 CFR Part 355 Appendices A and B. If a listed substance is a solid, two different planning quantities are listed (e.g., 500 lbs/10,000 lbs). The smaller amount (e.g., 500 lbs.) applies if the substance is in powder form, such as a soluble or wettable powder, or if it is in solution or molten form. The larger quantity (10,000 lbs.) applies for most other forms of the substance. If the extremely hazardous substance is part of a mixture or solution, then the amount is calculated by multiplying its percent by weight times the total weight of the mixture or solution. If the percent by weight is less than one percent, the calculation is not required (40 CFR Part 355.30).

- T** Ammonia -- The quantity of anhydrous ammonia that triggers the planning requirement is 500 pounds.
- T** Pesticides -- Examples of pesticides on the list with the quantity in pounds that triggers the planning requirement include: ethion (1,000), nicotine (100), dichlorvos (1,000), parathion (100), chlordane (1,000), methyl bromide (1,000), ethylene oxide (1,000), fenitrothion (500), phorate (10), zinc phosphide (500), aluminum phosphide (500), terbufos (100), phosphamidon (100), demeton (500), ethoprop (1,000), and disulfoton (500).
- T** Solid Pesticides -- Examples of pesticides with dual quantities that trigger the planning requirements include: coumaphos (100/10,000), strychnine (100/10,000), dimethoate (500/10,000), warfarin (500/10,000), azinphos-methyl (10/10,000), methyl parathion (100/10,000), phosmet (10/10,000), methidathion (500/10,000), carbofuran (10/10,000), paraquat (10/10,000), methiocarb (500/10,000), methamidophos (100/10,000), methomyl (500/10,000), fenamiphos (10/10,000), and oxamyl (100/10,000).

- **§304 Emergency Release Notification.** Under 40 CFR 355, facilities must *immediately* notify the SERC and LEPC of releases of EPCRA

extremely hazardous substances and CERCLA hazardous substances when the release equals or exceeds the reportable quantity within a 24-hour period and has the *potential* for offsite exposure. There are two notifications required: the initial notification and the written followup notification.

Exemption for Substances Used in Agricultural Operations. Only facilities that produce, use or store *hazardous chemicals* are subject to EPCRA release reporting. EPCRA §311(e) excludes from the definition of *hazardous chemicals* those substances used in routine agricultural operations. The exemption covers fertilizers and pesticides used in routine agricultural operations and fuels for operating farm equipment (including to transport crops to market). If all the hazardous chemicals present at the facility do not fall within this exemption, the facility must report all releases of any EPCRA extremely hazardous substance or CERCLA hazardous substance. Additionally, spills, leaks, or other accidental or unintended releases of fertilizers and pesticides are subject to the EPCRA release reporting requirements.

- **§311 and §312 Hazardous Chemical Inventory and Reporting.** Under EPCRA §311 and §312, facilities must inventory the hazardous chemicals present onsite in amounts equal to or in excess of the threshold planning quantities, and meet two reporting requirements:
 - A one-time notification of the presence of hazardous chemicals onsite in excess of threshold levels (EPCRA §311) to the SERC, LEPC, and the local fire department; and
 - An annual notification (Tier I or Tier II report) to the SERC, LEPC, and the local fire department detailing the locations and hazards associated with the hazardous chemicals found on facility grounds (EPCRA §312).

Exemption for Substances Used in Agricultural Operations. As mentioned above, the term "hazardous chemical," as defined in EPCRA §311(e), *excludes* substances used in routine agricultural operations.

Clean Air Act

Agriculture-related industries generally do not include those industry sectors considered to be major sources of air pollution. Nevertheless, some agriculture-related activities are potentially subject to regulation under the CAA. The

provisions identified below summarize the CAA requirements applicable to certain agriculture-related activities:

- **Risk Management Program.** Under §112(r) of the Clean Air Act, EPA has promulgated the Risk Management Program Rule. The rule's main goals are to prevent accidental releases of regulated substances and to reduce the severity of those releases that do occur by requiring facilities to develop risk management programs. A facility's risk management program must incorporate three elements: a hazard assessment, a prevention program, and an emergency response program. These programs are to be summarized in a risk management plan (RMP) that will be made available to state and local government agencies and the public.

Under 40 CFR Part 68, facilities that have more than the threshold quantity of any of the listed regulated substances in a single process are required to comply with the regulation. *Process* means any regulated activity involving a regulated substance, including manufacturing, storing, distributing, or handling a regulated substance or using it in any other way. Any group of interconnected vessels (including piping), or separate vessels located close enough together to be involved in a single accident, are considered a single process. Transportation is not included.

Listed regulated substances are acutely toxic substances, flammable gases, volatile liquids, and highly explosive substances listed by EPA in the Risk Management Program rule. The *threshold quantity* is the amount of a regulated substance that triggers the development of a RMP. The list of regulated substances and their corresponding threshold quantities are found at 40 CFR Part 68. Examples of threshold quantities of listed regulated substances include: formaldehyde -- 15,000 pounds; ethylene oxide -- 10,000 pounds; methyl isocyanate -- 10,000 pounds; anhydrous ammonia -- 10,000 pounds; and mixtures containing ammonia in a concentration of 20 percent or greater -- 20,000 pounds.

Exception: Ammonia that farmers are holding for use as fertilizer is not a regulated substance under the risk management program. Farmers are not responsible for preparing a risk management plan if ammonia held for use as a fertilizer is the only listed regulated substance that they have in more than threshold quantities. However, ammonia that is on a farm for any other use, such as for distribution or as a coolant/refrigerant, is not exempt.

Three program levels. The risk management planning regulation (40 CFR Part 68) defines the activities facilities must undertake to address the

risks posed by regulated substances in covered processes. To ensure that individual processes are subject to appropriate requirements that match their size and the risks they may pose, EPA has classified them into 3 categories (“programs”):

- **Program 1** requirements apply to processes for which a worst-case release, as evaluated in the hazard assessment, would not affect the public. These are processes that have **not** had an accidental release that caused serious offsite consequences.
- **Program 2** requirements apply to less complex operations that do **not** involve chemical processing.
- **Program 3** requirements apply to higher risk, complex chemical processing operations and to processes already subject to the **OSHA Process Safety Management Standard (29 CFR 1910.119)**.

Risk Management Planning. Facilities with more than a threshold quantity of any of the 140 regulated substances in a single process are required to develop a risk management program and to summarize their program in a risk management plan (RMP). A facility subject to the requirements was required to have submitted a registration and RMP by June 21, 1999, or whenever it first exceeds the threshold for a listed regulated substance after that date.

All facilities with processes in Program 1 must carry out the following elements of risk management planning:

- An offsite consequence analysis that evaluates specific potential release scenarios, including worst-case and alternative scenarios.
- A five-year history of certain accidental releases of regulated substances from covered processes.
- A risk management plan, revised at least once every five years, that describes and documents these activities for all covered processes.

Facilities with processes in Programs 2 and 3 must also address each of the following elements:

- An integrated prevention program to manage risk. The prevention program will include identification of hazards, written operating procedures, training, maintenance, and accident investigation.
- An emergency response program.
- An overall management system to put these program elements into effect.
- **National Ambient Air Quality Standards (NAAQS)/SIPS.** Under the CAA §10, each state must develop a State Implementation Plan (SIP) to identify sources of air pollution and to determine what reductions are required to meet federal air quality standards. If the applicable SIP imposes requirements on an agricultural establishment, that facility must comply with the SIP. The most likely pollutant of concern with respect to agriculture-related businesses is particulate matter.

Federal Insecticide, Fungicide, and Rodenticide Act

For agricultural producers, FIFRA is the environmental statute that most significantly impacts day-to-day operations of pesticide use. It also imposes administrative requirements on pesticide users, including agricultural producers. A summary of major provisions applicable to agricultural producers is provided below.

- **Use Restrictions.** The pesticide product label is information printed on or attached to the pesticide container. Users are legally required to follow the label. Labeling is the pesticide product label and other accompanying materials which contain directions that pesticide users are legally required to follow. Under FIFRA §12, each pesticide must be used only in a way that is consistent with its labeling.
 - As a part of the pesticide registration, EPA must classify the product for general use, restricted use, or general for some uses and restricted for others (Miller, 1993). For pesticides that may cause unreasonable adverse effects on the environment, including injury to the applicator, EPA may require that the pesticide be applied either by or under the direct supervision of a certified applicator.
 - It is against the law (Endangered Species Act) to harm an endangered species. Harm includes not only acts that directly injure or kill the protected species, but also significant habitat

modification or degradation that disrupts breeding, feeding, or sheltering. Pesticide users must comply with any pesticide labeling restrictions or requirements that concern the protection of endangered species or their habitats.

- **Tolerances and Exemptions.** A tolerance is the maximum amount of pesticide residue that can be on a raw product and still be considered safe. Before EPA can register a pesticide that is used on raw agricultural products, it must grant a tolerance or exemption from a tolerance (40 CFR.163.10 through 163.12). Under the Federal Food, Drug, and Cosmetic Act (FFDCA), a raw agricultural product is deemed unsafe if it contains a pesticide residue, unless the residue is within the limits of a tolerance established by EPA or is exempt from the requirement.

To avoid being responsible for products being over tolerance, users must be particularly careful to comply with the label instructions concerning application rate and minimum days between pesticide application and harvest (i.e., preharvest interval), slaughter, freshening, or grazing.

- **Worker Protection Standard (WPS) Requirements for Users.** The WPS for Agricultural Pesticides (40 CFR Parts 156 and 170) covers pesticides that are used in the commercial production of agricultural plants on farms, forests, nurseries, and greenhouses. The WPS requires pesticide users to take steps to reduce the risk of pesticide-related illness and injury if they or their employees may be exposed to pesticides used in the commercial production of agricultural plants.
- **Cancellation and Suspension.** EPA can cancel a registration if it is determined that the pesticide or its labeling does not comply with the requirements of FIFRA or causes unreasonable adverse effects on the environment (Haugrud, 1993).

In cases where EPA believes that an “imminent hazard” would exist if a pesticide were to continue to be used through the cancellation proceedings, EPA may suspend the pesticide registration through an order and thereby halt the sale, distribution, and usage of the pesticide. An “imminent hazard” is defined as an unreasonable adverse effect on the environment or an unreasonable hazard to the survival of a threatened or endangered species that would be the likely result of allowing continued use of a pesticide during a cancellation process.

When EPA believes an emergency exists that does not permit a hearing to be held prior to suspending, EPA can issue an emergency order that makes the suspension immediately effective.

Toxic Substances Control Act

TSCA has a limited impact on the agricultural sector. TSCA §3, Definitions, specifies that the term chemical substance means any organic or inorganic substance of a particular molecular identity. The definition also states, as declared at subsection (2)(B)(ii), that such term does not include any pesticide (as defined in FIFRA) when manufactured, processed, or distributed in commerce for use as a pesticide. Since the majority of potentially hazardous substances used by agricultural producers are pesticides, they are regulated under FIFRA. Regulation of hazardous substances under other authorities is part of TSCA's overall scheme which allows EPA to decline to regulate a chemical under TSCA if other federal regulatory authorities (e.g., FIFRA) are sufficiently addressing the risks posed from those substances.

- **Asbestos and Asbestos-Containing Material.** Under TSCA §6 and 40 CFR Part 61, Subpart M, EPA regulates the renovation/demolition activities, notification, work practices and removal, and disposal of asbestos-containing material (ACM). ACM should be carefully monitored; however, the mere presence of asbestos in a building is not considered hazardous. ACM that becomes damaged, however, may pose a health risk since it may release asbestos fibers over time. If a material is suspected of containing asbestos and it is more than slightly damaged, or if changes need to be made to a building that might disturb it, repair or removal of the ACM by a professional is needed.
- **Asbestos Brake Pads.** Facilities that repair their own brakes should be aware of asbestos requirements. Asbestos brake pads must be removed using appropriate control measures so that no visible emissions of asbestos will be discharged to the outside air. These measures can include one of the following: (1) wetting that is generally done through the use of a brake washing solvent bath, such as those provided by a service; (2) vacuuming that is usually performed with a commercial brake vacuum specifically designed for use during brake pad changing or pad re-lining operations; or (3) combination of wetting and vacuuming.

Asbestos brake pads and wastes must be managed by: (1) labeling equipment, (2) properly disposing of spent solvent, (3) properly disposing of used vacuum filters, and (4) sealing used brake pads. The containers or

wrapped packages must be labeled using warning labels as specified by OSHA [29 CFR 1910.001 (j) (2) or 1926.58 (k)(2)(iii)].

Asbestos waste must be disposed of as soon as practical at an EPA-approved disposal site. The asbestos containers must be labeled with the name and location of the waste generator. Vehicles used to transport the asbestos must be clearly labeled during loading and unloading. The waste shipment records must be maintained (40 CFR 61.150) so that the asbestos shipment can be tracked and substantiated.

- **Polychlorinated Biphenyls (PCBs).** PCBs were widely used in electrical equipment manufactured from 1932 to 1978. Types of equipment potentially containing PCBs include transformers and their bushings, capacitors, reclosers, regulators, electric light ballasts, and oil switches. Any equipment containing PCBs in their dielectric fluid at concentrations of greater than 50 ppm are subject to the PCB requirements.

Under TSCA §6 and 40 CFR Part 761, facilities must ensure through activities related to the management of PCBs (e.g., inspections for leaks, proper storage) that human food or animal feed are not exposed to PCBs. While the regulations do not establish a specific distance limit, any item containing PCBs is considered to pose an unacceptable exposure risk to food or feed if PCBs released in any form have the potential to reach/contaminate food or feed.

- **Lead.** Approximately 1.7 million children have blood-lead levels high enough to raise health concerns. Studies suggest that lead exposure from deteriorated residential lead-based paint, contaminated soil, and lead in dust are among the major existing sources of lead exposure among children in the U.S.

Section 1018 of the Residential Lead-Based Paint Hazard

Reduction Act of 1992 directs EPA and the Department of Housing and Urban Development (HUD) to jointly issue regulations requiring disclosure of known lead-based paint and/or lead-based paint hazards by persons selling or leasing housing constructed before the phaseout of residential lead-based paint use in 1978. Under that authority, EPA and HUD jointly issued on March 6, 1996, regulations titled *Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing* (40 CFR Part 35 and 40 CFR Part 745). In these regulations, EPA and HUD established requirements for sellers/lessors of residential housing built before 1978.

Pre-Renovation Lead Information Rule. If conducted improperly, renovations in housing with lead-based paint can create serious health hazards to workers and occupants by releasing large amounts of lead dust and debris. Under TSCA §406 and through a rule published on June 1, 1998 entitled *Lead; Requirements for Hazard Education Before Renovation of Target Housing* (40 CFR Part 745), EPA required the distribution of lead hazard information (i.e., EPA-developed pamphlet) prior to professional renovations on residential housing built before 1978.

IV.C. Proposed and Pending Regulations

Clean Water Act

Feedlots Effluent Limitation Guidelines. EPA is in the process of reviewing and revising the effluent limitation guidelines for feedlots. EPA is under a court-ordered schedule to revise the guidelines for poultry and swine by December 2001 and for beef and dairy cattle by December 2002.

NPDES Implementing Regulations. EPA intends to revise the existing NPDES permitting regulations to clarify expectations and requirements for CAFOs as well as to reflect the changes in the industry. NRCS and other USDA agencies will participate on the regulatory workgroup to advise EPA on the technical and implementation aspects related to any proposed revisions. Revision of the permitting regulations is expected to be closely coordinated with the revision of the Feedlots Effluent Limitation Guidelines (40 CFR Part 412) because of the commonality of issues and the administrative efficiencies for EPA, States and all interested groups. Permits in effect on the date of new regulations will remain in effect until subsequently changed to incorporate the new requirements.

Coastal Zone Act Reauthorization Amendments of 1990

Implementation of Management Measures. Under Section 6217, states/tribes must fully implement the management measures in their Coastal Nonpoint Pollution Control Programs by January 2004. States/tribes are required to perform effectiveness monitoring between 2004 and 2006 and implement other measures between 2006 and 2009.

Safe Drinking Water Act

Management of Class V Wells. EPA plans to propose additional requirements addressing the environmental risks posed by the highest risk Class V wells. This rulemaking potentially affects agricultural operations that use industrial and commercial disposal wells and large capacity cesspools.

Federal Insecticide, Fungicide, and Rodenticide Act

Pesticide Management and Disposal: Proposed Rule - issued on May 5, 1993 (FR26857). The regulations for this rule will be found in the Code of Federal Regulations (CFR) at 40 CFR Part 165 - Regulations for the Acceptance of Certain Pesticides and Recommended Procedures for the Disposal and Storage of Pesticides and Pesticides Containers. This final rule will:

- Describe procedures for voluntary and mandatory recall actions.
- Establish criteria for acceptable storage and disposal plans which registrants may submit to EPA to become eligible for reimbursement of storage costs.
- Establish procedures for the indemnification of owners of suspended and canceled pesticides.
- Amend the Agency's responsibility for accepting for disposal suspended and canceled pesticides.